

CLAIMS

What is claimed is:

1. A fan motor assembly with integrated redundant availability, said fan motor assembly comprising:
 - a fan motor subassembly comprising a first fan motor and a second fan motor;
 - a fan motor selector mechanism coupled to said fan motor subassembly, said fan motor selector mechanism configured to selectively couple said first fan motor or said second fan motor to a fan;
 - a control unit coupled to said fan motor selector mechanism, said control unit configured to control said fan motor selector mechanism such that either of said first fan motor and said second fan motor is selectively engaged to said fan.
2. The fan motor assembly of Claim 1 wherein said fan motor subassembly is removably coupleable to said fan motor assembly.
3. The fan motor assembly of Claim 1 wherein said fan motor subassembly is selectively driven by either said first fan motor or said second fan motor.
4. The fan motor assembly of Claim 1 wherein said control unit further comprises:
 - a fan motor performance monitoring unit configured to determine a performance characteristic of said first fan motor.
5. The fan motor assembly of Claim 4 wherein said fan motor performance monitoring unit comprises:
 - a tachometer configured to determine the rotational speed at which said first fan motor causes said fan to rotate.

6. The fan motor assembly of Claim 4 wherein said fan motor performance monitoring unit comprises:

a current measuring device configured to determine the amount of current used by said first fan motor.

7. The fan motor assembly of Claim 4 wherein said fan motor performance monitoring unit comprises:

a comparator configured to compare a measured performance characteristic of said first fan motor with a specified fan motor performance requirement.

8. A fan motor assembly configured to provide integrated redundant fan motor availability, said fan motor assembly comprising:

a fan motor subassembly comprising a first fan motor receptacle and a second fan motor receptacle;

a fan motor selector mechanism coupled to said fan motor subassembly, said fan motor selector mechanism configured to selectively dispose said first fan motor receptacle or said second fan motor receptacle in an orientation for driving a fan;

a control unit coupled to said fan motor selector mechanism, said control unit configured to control said fan motor selector mechanism such that either of said first fan motor receptacle and said second fan motor receptacle is disposed in said orientation for driving said fan.

9. The fan motor assembly of Claim 8 wherein said fan motor subassembly is configured to be removably coupled with said fan motor assembly.

10. The fan motor assembly of Claim 9 wherein said fan motor subassembly is selectively driven by either said first fan motor or said second fan motor.

11. The fan motor assembly of Claim 8 wherein said control unit further comprises:

a fan motor performance monitoring unit configured to determine a performance characteristic of a first fan motor removably coupled to said first fan motor receptacle.

12. The fan motor assembly of Claim 11 wherein said fan motor performance monitoring unit comprises:

a tachometer configured to determine the rotational speed at which said first fan motor causes said fan to rotate.

13. The fan motor assembly of Claim 11 wherein said fan motor performance monitoring unit comprises:

a current measuring device configured to determine the amount of current used by said first fan motor.

14. The fan motor assembly of Claim 11 wherein said fan motor performance monitoring unit comprises:

a comparator configured to compare a measured performance characteristic of said first fan motor with a specified fan motor performance requirement.

15. A method for providing integrated redundant availability in a fan system, said method comprising:

providing a fan motor subassembly comprising a first fan motor receptacle having a first fan motor coupled thereto and a second fan motor receptacle having a second fan motor coupled thereto wherein fan motor subassembly is disposed in an orientation for driving a fan with said first fan motor;

monitoring a performance characteristic of said first fan motor;

comparing a measured performance characteristic of said first fan motor with a specified fan motor performance requirement; and

provided said measured performance characteristic of said first fan motor does not meet said specified fan motor performance requirement, automatically disposing said fan motor subassembly in an orientation for engaging said fan with said second fan motor.

16. The method for providing redundant availability in a fan system as recited in Claim 15 wherein said monitoring of said performance characteristic of said first fan motor comprises using a tachometer to determine the rotational speed at which said first fan motor causes said fan to rotate.

17. The method for providing redundant availability in a fan system as recited in Claim 15 wherein said monitoring of said performance characteristic of said first fan motor comprises a current measuring device to determine the amount of current used by said first fan motor.

18. The method for providing redundant availability in a fan system as recited in Claim 15 further comprising:

provided said measured performance characteristic of said first fan motor does not meet said specified fan motor performance requirement, enabling removal of said first fan motor after automatically disposing said fan motor subassembly in an orientation for driving said fan with said second fan motor such that said first motor is removable without interfering with use of said second fan motor to drive said fan.

19. The method for providing redundant availability in a fan system as recited in Claim 15 wherein said automatically disposing said fan motor subassembly comprises using said second fan motor to drive said fan motor subassembly such that said second fan motor is engaged with said fan.